

Listing of Claims:

1 – 21. (Cancelled)

22. (Currently Amended) A magnetic resonance imaging system,
comprising:

a magnet assembly including a polarizing magnet, a gradient coil
assembly, and an RF coil;

a pulse sequence server coupled to the RF coil and the gradient coil
assembly to drive the gradient coils and to the RF coil to perform a magnetic
resonance imaging scan; and

a workstation coupled to the pulse sequence server for downloading
program elements to the pulse sequence server to drive the RF coil and the gradient
coil assembly, the workstation including an object oriented graphical application
development system for graphically developing a pulse description and a sequence
description to define and control a waveform of control pulses provided on each of the
gradient coils and the RF coil, the object-oriented graphical application development
system including a component library storing graphical object-oriented components
and a visual assembler for visually assembling the object-oriented components to
form the pulse sequence.

23. (Previously Presented) The magnetic resonance imaging system as defined in claim 22, wherein the pulse description is at least one of a 2D spin echo, a 2D gradient-echo, a 2D fast spin-echo, and a 3D gradient-echo sequence.

24. (Previously Presented) The magnetic resonance imaging system as defined in claim 22, wherein the sequence description defines an acquisition order to define at least one a slice and a k-space sampling order.

25. (Previously Presented) The magnetic resonance imaging system as defined in claim 22, wherein the sequence description defines at least one of a 2D sequential, a 2D interleaved, a 3D sequential, a 3D elliptical centric, and a multi-slice CINE acquisition order.

26. (Previously Presented) The magnetic resonance imaging system as defined in claim 22, wherein the workstation further provides an acquisition description, a data processing description, and a data store description.

27. (Previously Presented) The magnetic resonance imaging system as defined in claim 22, wherein the workstation further comprises a waveform plotter for graphically displaying a pulse sequence.

28. (Previously Presented) The magnetic resonance imaging system as defined in claim 22, wherein the pulse description and the sequence description are provided in an application controller downloadable to the pulse sequence server.

29. (Previously Presented) The magnetic resonance imaging system as defined in claim 26, wherein the acquisition description includes a set of components for prescribing the real-time processing NMR signals.